

Horticulture Northwest

Journal of the Northwest Ornamental Horticultural Society



Aquilegia formosa

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Sallie D. Allen, Editor

CONTENTS

Appointment of Professor Tukey.	37
NOHS Seed Exchange	38
Sow a Meadow George Schenk	39
Geum Triflorum Roy Davidson	46
Handicaps Dennis Thompson & Dan Douglas	47
Native Plants for Indoor Arrangement Marvin Black	52
Welcome New Members	54
Telopea truncata Brian Halliwell	55
Ornamental Plant, Medicinal Plant or Weed Brian A. Meilleur	56
Book Review	58
Plant List, Fall Lecture Dr. Roy Taylor	59
Tidbits	60
Cover illustration: Aquilegia formosa Mareen S. Kruckeberg	



APPOINTMENT OF PROFESSOR TUKEY

We are very pleased that Dr. Harold B. Tukey, Jr., has accepted the appointment as Director of Arboreta at the University of Washington. Professor Tukey's responsibilities will include development of a program of research and public service in Ornamental Horticulture (including what has been variously called Urban Horticulture or Urban Forestry).

Dr. Tukey is presently Professor (and formerly Acting Department Chairman) of Floriculture and Ornamental Horticulture at Cornell University. He is a member of several national and international horticultural and botanical societies, including the International Society for Horticultural Science (Vice President, 1978-82), American Horticultural Society, International Plant Propagators' Society (President, 1976), American Society of Plant Physiologists and the Botanical Society of America. He is the author or co-author of more than eighty articles in scientific journals and about twenty popular articles. At Cornell University Professor Tukey has been the chairman of more than twenty supervisory committees of graduate students at the Master's or Doctoral level.

Professor Tukey's research interests are concentrated on the physiology of horticultural plants; they include plant nutrition, propagation, dormancy, production of autumn foliage color and chemical interactions among plants. He is especially well known for his work on the leaching of substances from the leaves of plants by rain and on foliar uptake of chemicals. He has been extremely active in committee work for the National Academy of Sciences, much of this involving the biological effects of ionizing radiation and low frequency radiation (such as that produced by communication systems and high voltage transmission lines).

Dr. Tukey and his wife Tish have three children, a daughter Ruth Thurbon, who works in publishing in New York City, a daughter Carol Cameron, a student at Cornell University, and a son Harold III, who is a student at Michigan State University. Dr. Tukey was born in Geneva, New York, to a horticultural family. His father was the late H. B. Tukey, Sr., formerly Head of the Department of Horticulture at Michigan State University, and his brothers are L. D. Tukey, Professor of Horticulture at Pennsylvania State University, and R. B. Tukey, Professor of Horticulture at Washington State University, in Pullman. He and Tish expect to move to Seattle in May or June, 1980.



NOHS SEED EXCHANGE

Seed for Discriminating Gardeners

A seed exchange plays an important role in any organization's growth and development. It is an opportunity for members to share their treasured rare plants with others, as well as to obtain long desired plant material. The NOHS initiated such a seed distribution in January 1979 to broaden the scope of our activities and services to our members.

This is the second year for the NOHS seed exchange. We will need the cooperation of all members who grow unusual plants, and/or collect seed in the wild, in order to make it a success. We are looking for seed of trees, shrubs, herbaceous plants and spores of ferns which are: 1) little known and grown, rare and unusual, 2) predominantly, but not exclusively, Northwest American natives, or plants particularly appropriate to Northwest gardens; and which are not: 1) readily available in nurseries, 2) easily obtainable in other seed exchanges (American Rhododendron Society, American Rock Garden Society, etc.), or 3) hybrids.

The final date for seed donation will be January 15, 1979. A seed list will be published as soon thereafter as is possible, with an order form, and distributed to all members, air mail to overseas members. The orders of seed donors will be filled first. A small fee will be charged for each packet of seed to cover costs of packaging and mailing.

The following procedure should be closely observed in donating seed:

1. Seed should be fresh and apparently viable (collected recently).
2. Seed should be cleaned of excess dirt, debris, etc., wrapped in tissue or waxed paper (not plastic), clearly labeled as to genus, species, where collected, something about growing conditions if possible, and donor's name.
3. If seed cannot be sent in immediately, it should be stored in a refrigerator at approximately 40° F.
4. To mail, enclose all separately-wrapped and marked seed in appropriate size envelope, seal, mark with your name, return address, and the words, "Hand Cancel Only, Please" written in a conspicuous place on the front, and send to:

Mary Kenady, 18013 W. Snoqualmie Valley Road N.E., Duvall, WA 98019.

SOW A MEADOW

George Schenk, Bothell, Washington

Dear Mr. Schenk,

Our home is near completion on six acres of land--four wooded and two meadow. We would like eventually to have many wild flowers in the meadow. The type of grass that was there before we cleared was very tall (three feet or more), probably too tall to allow wildflowers to thrive there. Is there a variety of perennial grass that would be suitable for this meadow and when should we plant it? The grass would probably only be cut in the fall.

Sincerely yours J.L.

Dear Mrs. L.,

Five months ago when I received your letter, I considered exercising simple courtesy and spending five minutes (from salutation to sealing the envelope) to reply with the answers you requested: sow white clover or pasture grass in May or October. But I think the answers would not have resulted in a meadow garden. Neither--forgive my bluntness--would the questions. So I've carried your letter around quite a bit of the world, since I left home last fall, with the expectation that sooner or later I would sit down for several days to answer your questions as best I can. I feel no reply short of an essay on the power of the natural meadow, blended with an article on how to tame that power in some part, will be of any help in the complex landscape problem you've posed for yourself.

I have another purpose: I hope my reply may find publication and serve as my standing answer; one I might recommend to other inquirers. You see, throughout the 1970's, I have received other requests for information on meadow gardening, in total some twenty or more. Until now I've never replied, and have as a result, suffered constant, low-key guilt (especially in the case of the couple of letters that came from children). All the inquiries have been interesting. For example, this from an executive of a utility company located in the Midwest: "What wild grass seed and wildflower seed should we use to restore several thousand acres of prairie?" (Those aren't the exact words; I forget the actual measure of the land.) And this from a neighbor of yours--some land development company whose name I honestly can't remember: "What wildflowers and 'quick cover plants' should we use to dress up 240 acres of Bainbridge Island which we have utterly scalped?" Of course they didn't admit to *that*, and again I am approximating the acreage, but the gist of the problem lingers in my mind in those terms. Other questions have come from owners of homes and small acreages. Each of my inquirers who named the magazines or books whereby they found me, named the lightest of writing on meadows. My silence

in not answering has in part been reluctance to volunteer dampening answers (to the effect that it ain't that easy, folks) to delighted questions. But now I'll risk being unwelcome to flesh out that five-minute non-answer I considered sending you:

I suggest sowing either a white clover meadow or the "pasture grass" mix available at feed and seed stores. Clover will provide a beautiful flower meadow in itself; the effect will be transient; residual native grasses, expanding from bits of stolons and seeds left in the soil after clearing will take over the ground, supplanting the clover within three years. (In this process is the theme of practically all else I have to say.) Unlike clover, the pasture grass mix forms a permanent greensward; one or more plants in the mix elect themselves for dominance according to the compatibility of the particular seed in the particular soil and setting; the mix contains annual rye grass (which to my thinking has approximately the value of sawdust in bread), with a goodly admixture of perennial rye grass, white fescue, timothy, clover, and other wholesome ingredients. If you would establish wild flowers in your meadow, sow their seeds at the same time you sow the clover or grass. Local roadside wildflowers rate among the plants most likely to establish in a planned meadow; gather their seeds during late summer and fall. Sow the wildflowers over your meadow ground as generously as you have seed, but sow the clover or grass thinly. The idea is to give the flowers a better chance for a place in the soil and sun. In our climate, May and October are equally high seasons for the sowing of a meadow.

I don't know how many pounds of wildflower seed you will need to establish an effective showing over 2 acres of meadow, but I would guess 20 pounds of seed might result in a fairly colorful display if the germination goes well. Since I can't imagine where or how I myself would obtain 20 pounds of wildflower seed, even of the more readily harvestable roadside varieties, I would, before sowing, stretch what seed I did have by mixing it with a couple of buckets of dry sandy soil or plain sand. Whatever the medium, it must be dry enough so that seed and mineral will sift and blend.

I know of one other way of establishing a grassy meadow, and that is by not planting grass at all. The Pacific Northwest is conducive to natural stands of grass, grass that blessedly never has the perfection of a grass and lawn, and is usually superior in drought-tolerance, poverty-tolerance, disease and insect resistance, to any mixture one can buy and sow. I never use the store-bought product when I can help it. I dispense with seed-sowing wherever a piece of ground to be developed into meadow is located out-of-the-way visually, since there is a waiting period during which the ground is less than sightly. Here I simply wait for grass to volunteer.

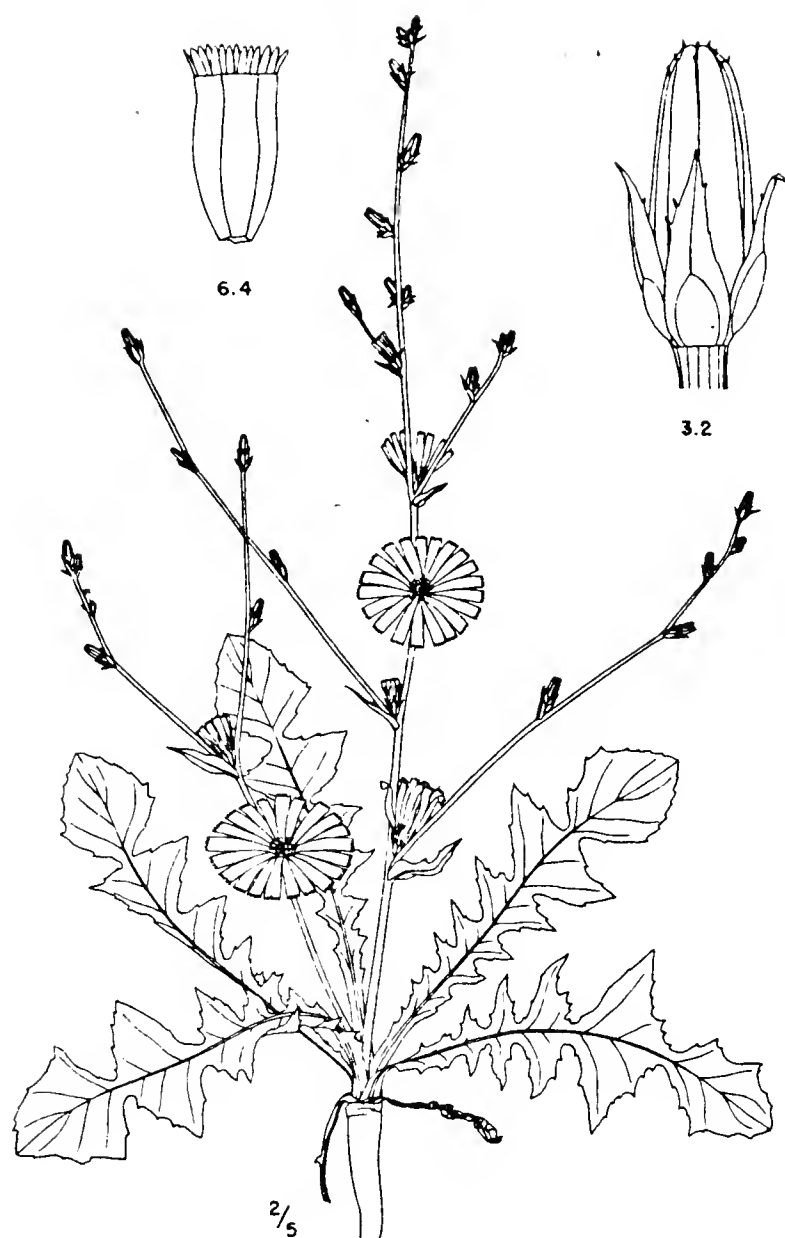
The first summer I mow weeds; again, the second summer I mow weeds, but now, rather magically, 30 to 50% of the ground becomes covered with perennial grasses; by the third summer usually, the entire ground will be covered with natural grass, and all annual weeds will have given way. Patches of thistle and horsetail remain. I spray them--I don't like doing it, but I do it.

In the very beginning of this wait for natural grass, one could sow wildflower seeds on plowed and harrowed bare ground, and would perhaps harvest a couple of extraordinarily flowery summers while the adventitious grass fills in.

There you have a primer of the planting and bringing up of meadows. There, however, you still do not have your answers. Popular articles on meadow gardening usually end at this point, though; probably because the journalist has discovered and reported on a young and flowery meadow, and knows nothing of the meadow's future. The longer truth is this: the meadow is in tumult and transition. If the ground is rich enough to encourage a lusty growth of grass, the situation favors grass over flowers; year by year, each grass plant will widen and densen. In a few summers, the flowers of the meadow will be crowded out; in time, the grass itself will yield to the advent of shrubs and trees; the forest is the finale that began with the pioneer flowers and grasses of the meadow. When fire or road-cutting sweeps away the trees and forest plants, the stage comes around to Act One, the Meadow.

Forgive me if I am being a bore with my Ecology lecture. But I know just where one can best study this eager science at work creating, changing, and cancelling the meadow. Walk along a country road, along several roads, and ask why flowers occur here and not there. Before you can realize even part of your goal of a flower-rich meadow at home, you will need an answer to the why and why not of flowers along country roads. You will not need to go far. I'll match roadside gardens on Bainbridge Island with the best in the country--in the world. Here in abundance on local roadsides are the flowers typical of new ground over all of western Washington, Oregon, British Columbia, and Alaska. To name some of the most appealing perennials and biennials, here are vetch and Queen Anne's lace, goldenrod, oxeye daisy, yarrow, asters, fireweed, pearly everlasting, foxglove, tansy, and chicory--white, violet, yellow, and rose along younger roadcuts (say three to seven years old). On older roadcuts there are fewer flowers and more patches of grass. On old roadcuts (ten years old and more), where the turf has grown thick, there are very few flowers or none at all; the last to give way to grass are fireweed and chicory. All these roadside species rank among the toughest, most determined wildflowers in the world; except for fireweed (a circumboreal native) all these plants are of European origin; far more aggressive than our native flowers, the floral immigrants have spread across North America as farmers, miners, and road-builders have opened ground; marvels of strength and shrewd opportunism, every one of these plants; yet--here is the point--the whole group is able to germinate and grow only on bare ground, and to the extent that grass asserts itself, these toughest of wildflowers lose their place. The seed of the last flower generation falls on closed ground and is unable to sprout; there it may remain viable--as has been proved--80 years and probably more, waiting for the soil surface to be bared again to sunlight.

I wonder: should a gardener at last tip his hat to the admirable power of the oncoming grass, and as a fitting end to his digging career, dig a hole for his shovel and pat over it the healing sod? On days too fine for gardening (balmy sun, beguiling grass scent) I would say yes. Those are the days when I survey with the serene eyes of a successful monk nature's ceaseless determination to sweep over my tallest geraniums, campanulas,



Cichorium intybus

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Aquilegia formosa

Illustration: *Aquilegia formosa*
Mareen S. Kruckeberg

and columbines, to engulf my half-acre islet of meadow entirely, with all the grass power inherent in a cow pasture in the high tide of June.

Vision of the garden without the gardener is not a defeatist's viewpoint; it is simply realism in focus and in balance with the enthusiasm that puts gardeners to work in the first place. Before staking out a claim to create what one will on the land, one must know visually, feel instinctively, and respect full well the power one goes up against. Maybe it would help if, before annihilating the weed in a session of gardening, the gardener bowed to his noble opponent in the manner of a sumo wrestler. This respect must at least be paid in one's mind. In neglect of it, in an over-confidence, in a misunderstanding of how fast and with what strength nature can and will move, the gardener will lose, as I well know. Outside of my own garden failures, one of the saddest examples of such lack of communication with nature I've ever seen was the planting by a young student of a collection of gentians in a tiny space (four coffins would have crowded it) she'd hacked within a Himalayan backberry patch; air, soil, and sun, all were owned by the weed; the gentians briskly quit.

Well, with full cognizance of the oncoming power of grass, why not sow meadow flowers with or without grass seed, rejoice in their few years of floriferousness, and afterward rejoice in the grass? Or, one might have swales of wildflowers from place to place in one's grass meadow, restoring these swales periodically by plowing under the encroaching grass, and reseeding the flowers.

Beside the well-known roadside flowers, there are a few other flowering plants I can think of that are capable of living with the lush meadow grasses of our coastal slope for several years, and in some cases, in the best of ecological balances, keeping their place with the grass indefinitely. Where grass attains a height of less than two feet at full growth, the most tenacious pasture flowers such as dandelion and hawkweed on upland ground, mint and buttercup on moist lowland, may remain throughout the life of the meadow, and are sure to stay if horses or other animals graze the grass. However, your ground (as you wrote) gave rise to grass at least three feet tall in the natural condition of the landscape when you arrived. I expect any suitable meadow grass sown on your ground will grow nearly or quite as tall as the grass that was there. In the case of such fertile soil, a meadow gardener would do well to cultivate an appreciation of the flowering of grass in a nearly pure stand; left unmown until fall, a tall-grass meadow will at least support a subordinate growth of bracken, and in fall, the grass in its ripe wheat stage, together with the coloring fern fronds, is one of the warmest, goldish-brown displays of the season.

I don't know if the description fits any part of your acreage, but where one's land is high, thin of soil and dry in summer--as on a knoll--one has the best of all chances of maintaining a balanced meadow of grasses and flowers. The poverty of the soil tends to keep grass short and thin, but fosters wildflowers in variety. Many rock garden plants come from short-grass meadows in nature, and might be returned to like conditions in the garden. And as floral fuel for a more blazing scale of gardening, California poppies and lupines rank as perhaps the most famous of flowers native to short meadows; close behind in any sort of celebration would follow the more robust geranium, campanula, and artemisia species. In

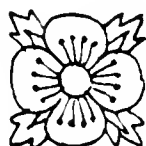
general, the shorter and sparser the grass, the greater the variety of flowers capable of growing in meadow companionship. (Irrigation tips the balance decidedly toward grass.)

Many bulbs inhabit natural meadows around the world, usually in grasses under two-feet tall, and such bulbs provide one of the best hopes in meadow gardening. The noble *Fritillaria imperialis* is superbly suited to grassland in the prairie interior of the West; the plant usually fails in coastal gardens, but in the rain-shadow of the Olympics, it might sow itself into hundreds and thousands, as it does in the Palouse Country garden of Roy Davidson. The larger, more vigorous hybrid daffodils and the poet's narcissus are often willing to naturalize in grass. Some degree of shade (and subsequent thinning of the grass) is probably crucial to their success. The best naturalized stand of daffodils and narcissus in the Pacific Northwest I've ever seen thrives in wild grass along a half-shaded roadcut at the south end of the Lion's Gate Bridge in Vancouver, Canada. The several Camas species hold their own in heavy turf in nature. I've never seen Camas used in a garden meadow, but I think a sheet of camas-blue or white might be readily possible to bring about, particularly in April-wet ground; the species most likely to establish in a garden meadow is the tall *Camassia leichtlinii*.

Any bladed-leaved flower that will endure in grass will blend smoothly in a meadow. Daylily, while little-tried as a meadow plant, is for its foliage and habits one of the most recommendable. When the meadow goes dry and brown in late summer, so does the daylily, its rhizomes well-fed and peacefully dormant; the meadow, daylilies and all, may then be mown without harm. The strongest forms of *Iris douglasiana* and almost any of the *Iris siberica* are equal to meadow grasses on a summer-dry hillside where the grass at full-growth stands thick, but no more than sixteen-inches tall; the balance of power between grasses and wildflowers is always sensitive; just an inch or two too much in the height of the grass will, in the run of several years, shade out the flower. *I. douglasiana* won't take mowing at all; (I've tried and lost); but the deciduous may without harm be cut flat in the fall after it goes sere.

Now that I'm warming to the subject, I can foresee this list of potential meadow flowers extending to a length that would never see publication. One more: the annual *Impatiens roylei* (native of India) has established itself sporadically in the Pacific Northwest, in places successfully competing with tall, riverine grasses; the plant stands six-to-eight-feet-tall, a candelabroid stem of implausibly tropical, rose-pink flowers (vaguely like *Cypripedium* and *Cattleya* crossed with something unknown).

Here's to your meadow awave with flowers; try the swale method.



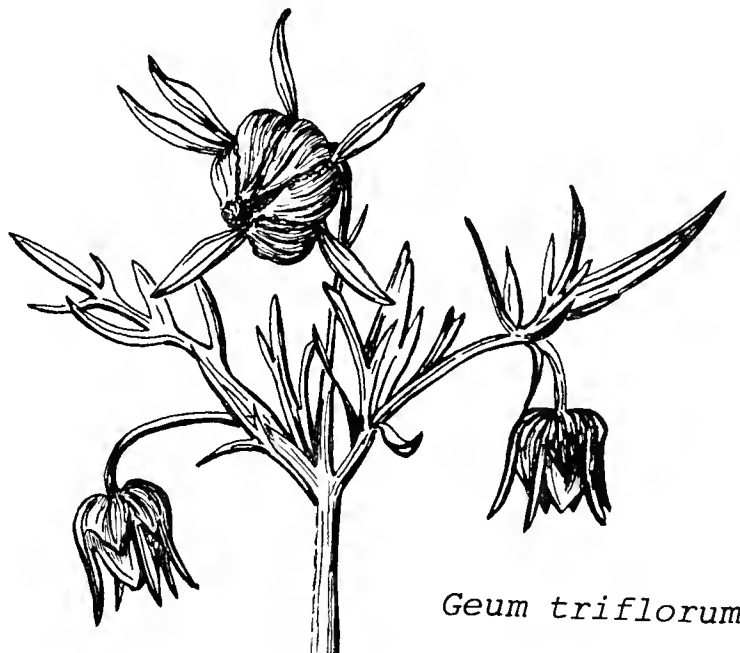
GEUM TRIFLORUM -- IS THAT ALL THERE IS?

Roy Davidson, Bellevue, Washington

Some plants are so subtle we are inclined to overlook them, to be disappointed that they are not show-stoppers. Such a one is the prairie avens, *Geum triflorum*. As a species extending across temperate Canada and southwards into a great part of the plains and intermountain lands of the USA, it displays a degree of variation, but in no case is it ever the sensation it might be if the flowers ever were to fully develop and to open up like others of the genus. Yet this is its great charm; the nodding rosy promise continues (with moisture) from mid-spring to the colder days of autumn, and the lovely silk tassels that follow are full payment. Add to this the softly downy foliage that is of value every day of the year, winter included, and with pretty rosy fall tints, and you have a subject paying its way always.

There have been a good number of segregants among the populations from botanical standpoints. Horticulturally, those from higher elevations are possibly even more charming than the majority in that they are more compact overall yet with just as much pluminess to the seed display. Taller forms (of which one has been cataloged as having come from my ancestral homeland in eastern Washington) might be of a rosier hue in flower. There could not have been surely a better year to have seen this than was this recent summer; great densely flowered clumps in meadowlands and pastures in Idaho, Wyoming and Colorado. The form from our own Olympics is apparently even more plumose, though less showy at flowering. Some forms show yellowish petals inside the clasping sepals and bracteoles if you pause to look.

This is a long lasting garden plant, one which persists from thickish, shaggy crown rhizomes. It is also one of those pleasant "blending" plants which look very well with whatever it is growing; rhododendron species of smaller stature, Pacific coast irises and some of the less bold hostas combine nicely with it along the low stone wall of my entrance driveway, and I enjoy it every day as I come and go.



Geum triflorum

HANDICAPS

Dennis Thompson and Dan Douglas, Edmonds Community College

It is unfortunate that such a simple word so often stirs rabid emotions. It conjures illusions like leprosy or the plague; people and situations to be avoided at all costs or "things" to be pitied and pampered. Both ends of the spectrum are irrational, but fears and other emotions have never been based on rationality. In a land "carved from the wilderness", we were taught from birth that our worst possible fate is to be unable to carve out our own survival at any point in our lives. The strong survive.

Emotional reaction, however, has little to do with reality. The dictionary defines handicap as "any encumbrance or disadvantage that makes success more difficult." Handicaps are relative to the situation and the determination of the individual. Not having 20/20 vision is a disabling handicap to a commercial airline pilot, yet few people consider themselves or others permanently disabled because they must wear glasses to see well. In fact, few people who wear glasses consider themselves handicapped.

It is a terrible feeling to realize that someone considers you to be handicapped. Particularly, when you know that what they are worried about will in no way interfere with your performance on a job. So people lie about their eyesight, their back, their heart condition, childhood diseases, diabetes, and age. The truth would often cost them a job that they can do. Times are improving and less discrimination is being overtly practiced, but we still have a long way to go.

Physical, emotional, or mental handicaps do not mean an individual will not succeed. In fact, it is often the challenge that spurs them out of mediocrity. As an example, let's look at some of the notable horticulturists in the last two hundred years. You may know of the people and their contributions, but few know of their "handicaps". If a person succeeds, obviously the handicap wasn't disabling; it is only the fear of failure that makes a restriction an insurmountable barrier.

John Loudon is best known for his Encyclopedia of Gardening and Gardener's Magazine. He was born in 1783 in Scotland and began gardening as a child. He developed a keen interest in drawing and science and progressed very quickly in his schooling. At the age of 14, he quit school and apprenticed himself to an Edinburgh nursery specializing in tree production. At 20, Loudon moved to London; that same year he was stricken by rheumatic fever (or polio) leaving one arm shortened and one knee severely weakened. He moved to the country to begin a long convalescence.

He rented a small farm and, with the aid of his father, set it under a program of "Scottish management". The farm thrived and in 1809 he rented Tew Park in Oxfordshire which also prospered, later becoming the agricultural college. During this same period he produced a series of books on botany and practical farming. He amassed a considerable fortune and was elected to

the Linnean Society for his botanical contributions. In his "spare time" he designed landscaping for a number of estates. He sold his farm, invested the money and left to tour the continent. (A very poor choice of timing--arriving in Russia and central Europe during Napoleon's retreat.)

Loudon's health worsened during the tour. He returned to England in great pain to discover that the business he invested in had failed. He set out to try to reestablish his fortune and convalesce. To reduce the pain he was started on laudanum. The narcotics dose was increased gradually until he was taking a wine glass-full each day. The arm continued to worsen and finally had to be amputated. This done, he set out to break himself of the opium addiction. Day by day he reduced his dosage by adding water to fill the bottle after each dose until, at last, he was taking nothing but pure water. During this time, he continued his prolific production of articles, pamphlets and books; and designing and installing landscapes.

In 1826, Loudon began The Gardener's Magazine using a team of knowledgeable contributors to appeal to both the novice and the accomplished gardener, particularly promoting new ideas such as a machine that cuts grass. It was in the magazine that Loudon reviewed one of the earliest science-fiction books, a three-volume "romance of the twenty-second century" called The Mummy. The novelist prophetically, like Verne and Wells, described advances such as a steam-driven plough and machines for milking cows. Loudon was very impressed and set out to meet the author. He was quite surprised to meet a twenty-year-old woman rather than an elderly professor. The meeting led to marriage in 1830 and one of the most successful partnerships in horticultural history. It was the combined abilities of the pair that produced the later works.

Jane Webb knew nothing of gardening. She was born into a wealthy family, but after her mother's death and the loss of the family savings, Mr. Webb, "with a shattered constitution and a greatly diminished fortune retired to a small estate." Jane wrote to alleviate the financial situation and maintained a small cottage in the country looking after a younger sister and an "ailing" father.

Loudon worked from 8:00 A.M. to 8:00 P.M. supervising the draftsman preparing the drawings for his Arboretum et Fruticetum Brittanicum. He would then return home and, following dinner, he and Jane would work on the text until 2:00 a.m. Creditors claimed the profits from this production, so work continued at breakneck pace on following productions.

Loudon's health continued to deteriorate and December 13, 1843, he died while dictating to Jane.

While working with her husband, Jane had continued writing on her own. Her Gardening for Ladies has a simplicity and accuracy that comes best from the freshly learned. After John's death, she continued to support herself through her garden writing, employing both the scientist's and the novelist's approach to the job.

Another amazing English gardener was Gertrude Jekyll, born the year John Loudon died. Her family was wealthy and encouraged her in the "boyish pursuits" of science and construction. Her interest in gardening was strictly a hobby. Her vocational aspirations were in the fields of drawing, painting and music. She also did commercial design of furniture. She was an avid follower of William Robinson and took many of his practical ideas and artistically adapted them in her garden. In the early 1890's her career as a painter ended with her worsening eyesight. During her years of designing gardens as a hobby, she completed one for G.F. Wilson at Wisley, the future garden of The Royal Horticulture Society.

Miss Jekyll is delightfully described by Elizabeth Lawrence in a publication of excerpts from Miss Jekyll's books.

"She thought her unusually keen hearing was by way of compensation for her poor eyesight. Her natural focus was two inches, but she trained herself to close observation, and often saw things that those with perfect vision overlooked. As she drove about in her dog-cart, she never missed the smallest flower along the roadside, and when she found something new, she observed it minutely.

"She was only fifty-seven when she began to beg her readers to leave her in peace, but she wrote eight years later that she could still, when no one was looking, climb over a five-barred gate or jump a ditch. 'I think it is because I have been more or less a gardener all my life,' she said, 'that I still feel like a child in many ways, although from the number of years I have lived I ought to know that I am quite an old woman.' At seventy-two she was laying out paths on a knoll of Hydon Heath, and directing Boy Scouts in clearing out the undergrowth. In 1932, she wrote Miss Willmott that it was very hard not to be the one to do 'all the little things about the garden that want doing directly (sic) you notice them, and to have to be hauled about in a wheel chair instead of having leisurely solitary prowls of close intimacy with growing things.'" (1)

William Robinson is another of the early Victorians who helped change the direction of landscape design and gardening. An Irishman, Robinson fell in love with the wildflowers in the English countryside and set out to steer gardening from "...trying to rival the tile or wall-paper man..." back to the "spirit of natural beauty". In his works, he introduced the idea of rock gardening. Robinson at best could be called irascible and spent a great deal of his life picking fights over greenhouses, design, plant names and the development of simplified landscape maintenance. Robinson, an active gardener, lost the use of his legs at the age of 72 and was confined to a caterpillar-tracked wheelchair which he maneuvered about his estate for the next 25 years, setting out a new orchard of seedlings himself at the age of 95.

Reginald Farrer was a product of the end of this period. Farrer was born into an "old family", his father having served as high Sheriff of Yorkshire. The exact reason seems unknown, but as a child, he was not deemed healthy enough to attend school. The Victorian society called the problem a "childhood infirmity". In later life, it seemed connected with the lungs. Since he had much time free to himself, he studied plants and gardened, considered by his friends "a girlish occupation". He did attend

Balliol College for a short time, but was not impressed. His father then furnished him with money to buy a political appointment which he spent on plants instead. He wrote with a dazzling flair and helped support his interests with books of his travels and plant collecting in the Himalayas, China and Burma. He died in 1920 collecting in the tropical forest of upper Burma.

America also has had a series of non-traditional professionals. Bernard M'Mahon was an Irish nurseryman who came to the U.S. in the late 1700's. He established the major operating nursery in the new country and received and propagated the plant materials collected on the Lewis and Clark Expedition. (Mahonia is named in his honor.) In the 1857 4th edition of his American Gardener, a glimpse of Mrs. M'Mahon is presented.

"After a long life of laborious and painstaking industry, Mr. M'Mahon paid his last debt and left the concern to the management of his wife, who conducted it under difficulties that would have appalled most women. She, however, continued to be successful, but was at length stricken with blindness; in this condition, she still occupied a seat behind the counter, and gave directions to assistants, having a kind word and a piece of intelligence for all who frequented the shop."

Theodosia Shepherd was a different case entirely. Her personality seems not to have impressed many people favorably. Whether it is the entire truth or not, her career is said to have begun because she "coveted 'hand-painted' textiles and crocheted tidies."

"The driving energy that conquered ill health and poverty, wholly self-centered though it was, reached out to interest leaders among those who supplied American gardeners with their prime necessities. By selection and hybridization, she brought new flowers into American gardens and greatly improved some of the old ones.

When Theodosia was three years old, her young mother died in childbirth, and her father, shattered by his loss, clung to his eldest daughter. ...To the young lawyer widowed while still in his twenties, the little girl seemed almost literally a gift of God. He would stride into a courtroom with the tiny child perched on his shoulder or leading her by the hand. She learned to sleep on any chair, in any corner, or, if awake, to keep quiet as a mouse while all those men talked.

"As they drove over the prairie, her father told Theodosia the names of the wild flowers they saw and sometimes drew rein and let her get out to gather them. Then Augustus Hall brought home his new wife. From that moment until her marriage, Theodosia's story centered around the wicked stepmother. Jennie Smith Hall detested her eldest step-daughter at sight and mutual hatred was the only emotion that the two ever shared.

"Eventually, however, Theodosia was able to escape from this miserable situation by establishing a home of her own. She married Will Shepherd, an idealistic young man. It seems hardly credible that two well-intentioned young people could get themselves into so much trouble in so short a time. The community was scandalized at their crazy notions. Former friends avoided them. Young Mrs. Shepherd met this sea of troubles

with floods of tears. Tears were so chronic with her that her husband called her Niobe.

"In the midst of this sea of troubles, the Shepherds came upon a series of newspaper articles celebrating the beauty and comfort of life in southern California. While the complicated arrangements for leaving Iowa were still under way, Mrs. Shepherd discovered that she was pregnant. Tears were inadequate to this new situation and she met it with a fit of hysterics. This brought on an illness which the doctor declared might prove fatal unless a change of climate was provided. Southern California thus became not only a haven but a necessity.

"Mrs. Shepherd found that her delicate health was greatly improved by working out of doors in God's sunshine. And there is little doubt that she was right. She was to die at sixty-one of tuberculosis which may well have been latent in her system as a low-grade infection for many years.

"In (Harper's Magazine for Young People) Mrs. Shepherd found a barter column that interested her. She had...many more calla lily tubers than she wanted" and "there were California wild flowers whose seed could be gathered. Her idea was successful beyond her wildest dreams. In a surprisingly short time, Mrs. Shepherd was making a thousand dollars a year--a very substantial income in the 1880's. The final frosting on this achievement was the incorporation of a stock company which must have been one of the first business firms in this country to be owned and operated by women." (2)

Among the outstanding selection accomplishments of Theodosia, according to old records, are the Heavenly Blue morning-glory, the parent strain of today's garden cosmos, the large-flowered petunias, and a series of Rex and other begonias.

This is an abbreviated list. But we hope it shows that limiting conditions--chronic and crippling diseases, loss of mobility, loss of sight, drug addiction, emotional instability, sex nor age--have not prevented individuals from success and occupational fame in gardening. Inventorying handicaps, it would appear that there are only three major disabilities that prevent successful amateur and professional gardening--the lack of will to work with plants, no one to pass on the knowledge and skills, and the ignorance of the public.

- (1) Gertrude Jekyll, On Gardening, Charles Scribner's Sons, New York, 1964.
- (2) Buckner, Hollingsworth, Her Garden Was Her Delight, The MacMillan Company, New York, 1962.



SEED EXCHANGE - 1980

See Page 38, this issue.

NATIVE PLANTS FOR INDOOR ARRANGEMENT?

Marvin Black, Seattle, Wash.

Foliage of some Washington native plants can make excellent casual, simple arrangements. Before you head for the woods, however, there are three important cautions.

1. If you cut things from property not your own, you must get permission or you are breaking the law. You may not legally cut along highway rights of way.
2. Only certain plants can be cut without harming them. Many plants--including all rare ones--shouldn't be cut; cutting them is ecologically unsound.
3. Cut sparingly. You harm any plant by removing half its leaves, and whole-sale cutting is unsightly and selfish.

Mahonia aquifolium (*Berberis aquifolium*) is satisfactory and long-lasting, up to two or three weeks indoors. This shrub is valued for its glossy leaves, golden flowers, and reddish autumn color. Pruning up to 1/4 the top from large plants will not seriously harm them. The *Mahonia* (Oregon grape) foliage combines well with garden flowers, particularly chrysanthemums. Other native mahonias should not be cut; they regenerate more slowly.

Cutting of sparing amounts of red huckleberry, *Vaccinium parvifolium*, may be tolerated. The airy foliage is excellent alone--it has a fragile, Japanese aspect--or with roses and delicate flowers in simple or naturalistic arrangements. The foliage lasts well except when it is very young. Vine maple foliage (*Acer circinatum*) also is good except when young and tender; it is exciting in brilliant fall colors. There is a great temptation to cut far too much of this autumn festival-color, and overcutting is selfish.

Swordfern (*Polystichum munitum*) foliage and tips of *Gaultheria shallon*, salal, are both gathered in large quantities by commercial collectors from our forests, for wholesale florists; both plants regenerate well. I do not like the idea of the similar cutting of *Vaccinium ovatum* (evergreen huckleberry) in our woods, because the plant recovers much more slowly here than in coastal areas where it is commercially cut. I'd recommend only the cutting of a few branches on old plants. Berries like *Symphoricarpos albus*, the well-known snowberry, look good indoors and may be cut. Many other berries, such as elderberries (*Sambucus* spp.), wilt badly when cut and aren't satisfactory indoors.

I cannot in conscience recommend cutting flowers of wild herbaceous plants for indoor use except from one's own land, and personally prefer to enjoy most of these as they grow--even in my own garden--rather than bringing them in.

Dried brown leaves, dead twigs, a piece of weathered wood, dry seedstalks like the weedy dock (*Rumex* sp.) or teasel (*Dipsacus* sp.), all can offer ways for the arranger to enjoy autumn or winter effects without cutting off anything living. Some of my most sensitive flower arranging friends prefer to limit their collecting to this non-green approach.

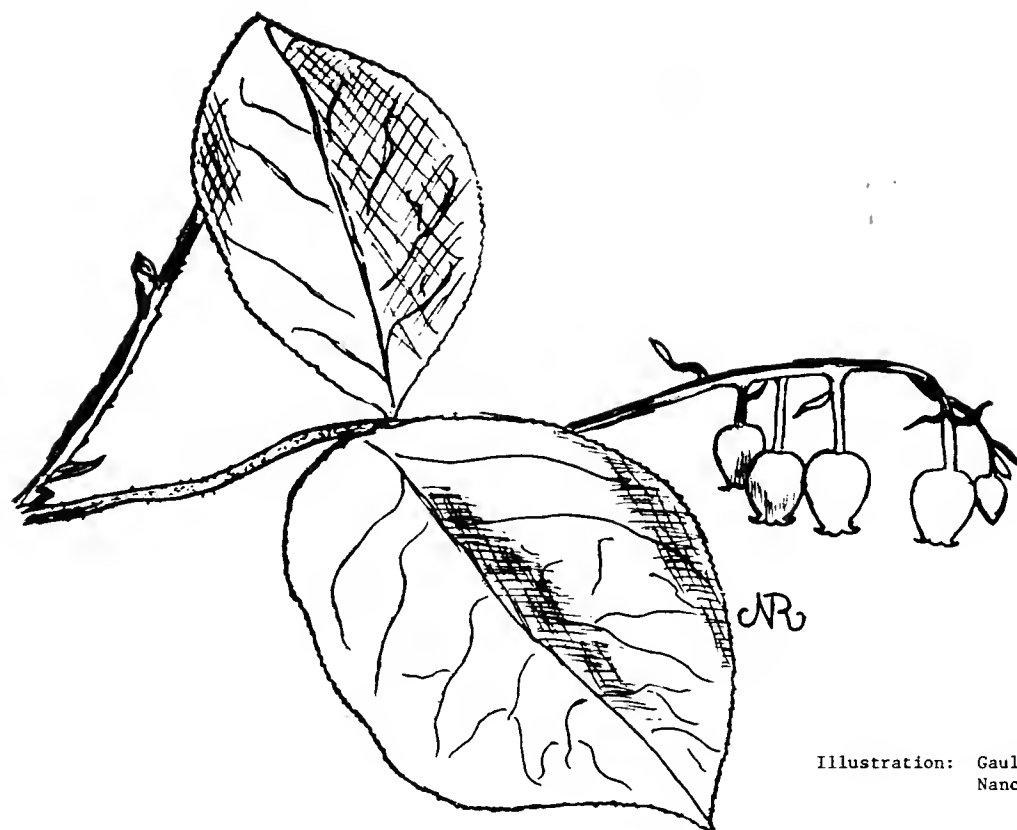
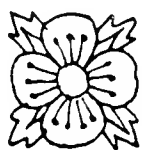


Illustration: Gaultheria Shallon
Nancy Richardson

Hardy epiphytes, plants living in trees, can be enjoyable additions to the garden. Besides our native licorice fern, coast sedum (*S. spathulifolium*) and selaginellas, several cultivated plants would possibly adapt to tree-growing: cyclamen, heuchera, acorus, some grasses. The limiting factors include summer moisture availability, light, and limited source of nutrients. Other plants with possibilities include sempervivums, dwarf horsetail, tolmiea. And what about the annuals for starved locations? Sweet alyssum, limnanthes, cymbalaria, linaria, etc. And then the weedy bulbs, *Allium moly* and *Scilla campanulata* or the fleshy-rooted lily-of-the-valley! With a little help from camouflaged baskets of chickenwire and sphagnum moss to hold bits of organic soil, why not wintergreen and cranberries and huckleberries and cascades of pachysandra or periwinkle or even impeditum rhododendrons or dwarf roses for sunny places? Ah, the maniacal ramblings of a gardener whose space is filled!



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BARNECUT, Mr. George, Jr., 150 Prospect St., Seattle, WA 98109	283-7517
BERRY BOTANIC GARDEN, The Library, 11505 S.W. Summerville Rd., Portland, OR 97219	
BISHOP, Mrs. Joy, Wheelspin, 83 MacDonald Rd., Lightwater, Surrey England GU 18 5XZ	Bagshot 72500
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WILSON, Mr. James, c/o All-America Selections, 1186 Los Altos Ave., Los Altos, CA 94022	(415)941-2030
ZIMMERMAN, Constance, 1729 N.E. Ravenna Blvd., Seattle, WA 98105	
ZUELOW, Mrs. Helen Lohmeyer, 13631 N.E. 102, Kirkland, WA 98033	827-2939

TELOPEA TRUNCATA: TASMANIAN WARATAH

Brian Halliwell, Royal Botanic Gardens, Kew, England

Proteaceae is a family from the Southern Hemisphere which has most representatives in Australia, rather fewer in the southern part of Africa and with one or two genera each in New Zealand and South America. As a family it contains many spectacular plants that have been much used for garden decoration. Unfortunately most are only suitable for cultivation in gardens in the warmer parts of the world with only a few reliable in the cool temperate regions.

Telopea truncata is a mountain plant occurring between 2000 - 4000 feet in Tasmania where it is found on forest fringes or amongst alpine scrub. Flowering as it does at Christmas time in the Antipodes, it was once gathered in quantity to deck homes at the festive season. In Tasmania it has proved difficult of cultivation in gardens in towns and cities for these are close to sea level where summers are dry. Coming as it does from the mountains it needs a cool and moist summer to thrive.

At the lowest altitudes of its distribution in the forest fringe it can make a tree up to 12 feet in height but amongst the alpine scrub it often is less than half this height. It is usually a much branched shrub with the upright branches clothed on the younger portions with thick leathery lance-shaped leaves with pointed or flattened apices. The upper slightly convex surface is dark green whilst beneath is reddish brown from its rather silky hairs. The inflorescence which is two or three inches across is produced terminally in the northern hemisphere in June or July. Although there appears to be a single head of incurving petals, it is in fact a cluster of many incurving, narrow tubular flowers from which the stamens protrude. Flower colour is a bright red of varying shades but there are rare colour variants to be found in the wild, pink, white and even yellow. Following fertilization a cluster of woody pod-like capsules develop which split lengthwise when ripe to display a pair of rows of overlapping winged seeds.

Propagation is only reliable by seeds, which should be sown thinly on a well-drained peaty compost. Place in gentle heat, and following germination place in an airy position and keep well watered, avoiding stagnant air conditions. Unlike most seedlings there should be no hurry to separate them. They are best left undisturbed for a year before each is potted separately in a mixture of equal parts of lime-free soil, peat and sharp sand, but without fertilizers. Planting out should take place whilst the plant is still small and before it is rootbound. Choose a moist, peaty soil where there is good drainage. Unless summers are cool and there is a reasonable summer rainfall these plants are unlikely to succeed.

Plant at the edge of woodland, under trees as long as there is plenty of light, or in full sun if summers are cool and moist. They associate well with rhododendrons, coming into flower as these go over. When conditions suit, subsequent growth can be rapid but it is not unknown for plants to sit still for a year or two before growth really gets going. An annual mulch in spring is beneficial and water can be applied if there are any dry periods in summer.

Take off the dead heads following flowering, cutting just below the old flower secateurs. Pruning to shape can take place at the same time.

ORNAMENTAL PLANT, MEDICINAL PLANT OR WEED?

Brien A. Meilleur

Ethnobotanical research sometimes results in an awareness of striking differences in cross-cultural attitudes towards certain genera or species of plants. While engaged in ethnobotanical research in an alpine commune in the department of Savoie, southeastern France, I found that my perception of the horticulturally ubiquitous and ornamentally beautiful *Rhododendron* was not the image held either by the traditional montagnard nor by the recently arrived ski promoter. The alpine species *Rh. ferrugineum* L. will provide the example.

Traditionally the mountainous regions of Savoie and adjacent departments were occupied by speakers of the Franco-Provencal language. It was a hard-working existence in an extreme environment. They practiced hard cereal grain and potato agriculture, orchard management, small plot vegetable gardening, limited cattle, sheep and goat transhumance, and hunting and gathering. Distance from urban centers and marginal resource value to the dominant lowland market-oriented society contributed to the persistence of a highly stable alpine economy dependant on a close relationship between man and the local flora and fauna. Detailed knowledge of economic, alimentary and medicinal plants still exists.

In the traditional alpine community of dispersed villages the vivid carmine flowers and the upper leaves of the alpine *Rhododendron* serve to provide a mild medicinal infusion for colds and flu. In late spring and early summer the flower tops are amassed, dried, and then periodically used as needed throughout the year. Often they are mixed with *Antennaria dioica* (L.) Gaertn. blossoms.

The plant otherwise is appreciated for its beauty and uniqueness by montagnards and their summer tourist visitors. Some local villagers have even attempted to transplant it to their flower gardens, although unsuccessfully. In nature the plant is widespread in clear forests of *Pinus cembra* L. and *Larix decidua* Mill. or is found on humid moors between 1700 and 2300 meters (5300' - 7200'). The plant blooms from June to August.

Some thirty years ago, however, the discovery of terrain highly suitable for alpine skiing occurred. The subsequent explosive development in many parts of the Alps drastically modified the alpine landscape. The way of managing alpine resources and of perceiving them was equally modified. The maintenance of ski slopes has now become an overriding concern of those communes involved in ski tourism. It is not only economically rational to prolong the use period of the slopes as long as possible, but it is of great importance to minimize the risk of avalanches. Avalanches can carry people away while skiing, can cut roads and communications as well as decimate areas of human habitation as occurred at Val d'Isere in 1970.

The shift in focus from a traditional agro-pastoral economy to a tourism based economy has also resulted in the abandonment of the summer movement of domesticated animals and their shepherds into the subalpine and alpine pastures, called alpages. Here the famous Beaufort cheese was manufactured. Varying

proportions of these alpages occur naturally, especially in the alpine zone, but in the subalpine zone forests and brush have been cleared away to extend the pasturage. Documented evidence indicates that extensive clearing began as early as the 10th C. by Cistercian monks. By this means the carrying capacity of the alpage system was considerably raised.

But today as the traditional economy yields to big tourist francs, the artificially maintained alpages revert back to spruce and pine forest through a succession involving combinations of small woody plants, notably: *Juniperus communis* L. ssp. *nana* Syme; *Alnus viridis* (Chaix) D.C.; *Vaccinium vitis-idaea* L. and *V. myrtillus* L.; and *Rh. ferrugineum*. These successional modifications in the subalpine alpages are frequently cited as a prime cause for a considerable increase in the frequency of avalanches in these areas. According to the proponents of this theory and the recently established community of entrepreneurs and ski slope managers who subscribe to it, rapidly invading woody plants are the avalanche-causing culprits; the "weeds" of the newly evolved ski industry. Apparently these species do not allow a proper bonding of snowpack with the solid ground. Increased snowfall compresses the woody branches toward the fall line and makes the interface susceptible to slippage.

A logical solution might be to encourage the rapid reforestation of the artificially maintained alpages, but as in the pastoral system before them ski slope managers want to keep the area forest free. Many strategies have been attempted to diminish the likelihood of avalanches in these areas such as:

1. chemicals to kill invading plants
2. burning the area periodically
3. constructing earthen or metal snow retaining walls.

Only the metal snow retainers seem to work well. They are, however, highly unattractive impositions on the alpine scenery.

There has been considerable interest, most notably by naturalists, in attempting to intensify or reestablish the limited summer transhumant pattern and thus create a symbiotic relation between the pastoral and the tourist economies. This topic is still considerably debated in the winter sports' stations. The major difficulty to what otherwise seems a logical relationship is in convincing the montagnard to return to what he considers a noncompetitive economy by today's standards, especially without some form of local or national initiative.

Meanwhile the tourists remark on the striking *Rhododendron* color, the montagnards stock away their winter supply of medicinal flower tops, and the ski slope managers try to figure out the best ways of impeding the advance of a noxious "weed".



BOOK REVIEW

The Larger Bulbs, by Brian Mathew, B. T. Batsford, London, in association with the Royal Horticulture Society, c1978. 156 pages including index. Price about \$15.00.

Just at Christmas last year The Larger Bulbs arrived, a sequel to Mr. Mathews' highly successful Dwarf Bulbs. It is not as important a book as its predecessor, being more limited in scope (20% less genera). It sometimes suffers from uneven treatment, with relatively well-known species omitted for extended discussions of minor genera--*Tigridia* rates half as much space as *Tulipa*, for instance.

Nonetheless, it is a valuable book. British writers, even at less than their peak, usually impart more readable horticultural information than the oft-sterile American efforts, and no American has come close to the British on bulbs. Mathew can wade into a genus like *Tigridia*, summon up Sally Walker's help from Arizona, and come up with delightful anecdotes about *T. "drugstorensis"* and a lot of recent information on the genus. He includes rare genera like *Paramongaia*, *Gelasine*, *Manfreda*, and *Mastigostyla*, and has a large listing of lesser-known bulbs from Texas, Arizona, Mexico and South America. The American northwest coast hasn't much representation beyond *Camassia*, *Fritillaria* and *Brodiaea*; only *Lilium pardalinum* of northwest lilies gets mention. The better-known bulb genera have been well-treated by other authors; Brian Mathew skirts them, and the reader may be frustrated at having to move to someone else's book to get more information. The photos are sometimes mediocre, though a few superb ones are included. Line drawings by Pat Halliday are of good quality.

There is a comforting feeling that this writer has grown whereof he speaks, and he is willing to confess his failures with certain plants, which is useful to others trying new species. He also draws freely on other experts like Americans Wayne Roderick, Marshall Olbrich and Roy Davidson. He gives you solid cultural information, and a lot of material not offered in previous books.

The author has written three books. The first, Dwarf Bulbs, had 240 pages. Then came Daphnes (with C. D. Brickell), at 194 pages, and now the 156-page The Larger Bulbs. Is a 120-page book on The Middle-sized Bulbs on the horizon?

Marvin Black



N.O.H.S. 1979 Lecture Series: Shaping Your Garden.
 October 11, 1979 - Our Native Plants: Priceless Treasures
 Dr. Roy L. Taylor - Botanical Garden, The University of B.C.

List of plants discussed in Dr. Taylor's address:

A. TREES

Thuja plicata
Pseudotsuga menziesii
Tsuga heterophylla
Tsuga mertensiana
Picea sitchensis
Picea sitchensis 'Golden Spruce'
Pinus contorta var. *contorta*
Cornus nuttallii
Cornus 'White Wonder'

B. SHRUBS

Juniperus scopulorum
Artemisia campestris
Lupinus arboreus
Rosa gymnocarpa
Physocarpus capitatus
Rubus spectabilis
Rubus parviflorus 'Flora Plena'
Spiraea betulifolia var. *lucida*
Spiraea pyramidata
Oplopanax horridus
Lonicera etrusca
Ribes bracteosum
Ribes sanguineum
Ribes sanguineum 'Album';
Vaccinium ovatum
Andromeda polifolia
Gaultheria shallon
Rhododendron macrophyllum
Paxistima myrsinites
Mahonia repens

C. HERBACEOUS OR SEMI-WOODY PLANTS

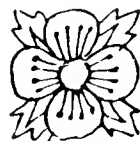
i) Ground Covers

Linnaea borealis
Antennaria umbrinella
Dryas octopetala
Satureja douglasii
Abronia latifolia
Cornus unalaschensis
Prunella vulgaris
Eriophyllum lanatum
Sedum spathulifolium

C. HERBACEOUS OR SEMI-WOODY PLANTS

ii) Ornamental Specimens

Erythronium grandiflorum
Erythronium oregonum
Trillium ovatum
Smilacina racemosa
Allium hookeri
Iris pseudacorus
Sisyrinchium douglasii
Sisyrinchium douglasii 'Alba'
Goodyera repens
Cypripedium calceolus
Lysichiton americanum
Nuphar luteum ssp. *polysepalum*
Silene acaulis ssp. *subacaulescens*
Mertensia longiflora
Aquilegia formosa
Campanula alaskana
Castilleja miniata
Epilobium angustifolium
Epilobium angustifolium var. *alba*
Dodecatheon pulchellum ssp. *cusickii*
Dodecatheon hendersonii
Saxifraga rufidula
Lithophragma parviflorum
Tolmiea menziesii 'Variegata'
Lewisia redivia
Phlox longifolia
Erigeron linearis
Balsamorhiza sagittatus
Gaillardia aristata 'Hercule'
Petasites palmatus
Aster pansus
Erigeron speciosus var. *speciosus*
Lythrum salicaria



Tidbits

by Ladybug



Photographers, please give us the benefit of your experience. When film is processed by Eastman Kodak, slides are consistently mounted in cardboard; when processed elsewhere, sometimes the mounts are of a very neat plastic. Have you found any difficulty with continued projection of the latter, with the plastic pulling down on the emulsion side only? It does not apparently injure the film, but creates an imperfection that could catch in a projector with successive use.



On the subject of photography: We have asked a number of people for their method of recording and storing slides, making them readily accessible for any presentation they might be asked to give. The general consensus of opinion has been that they too were looking for that perfect solution. Can you help?



You get a nice feeling of extending the indoors outside, or vice versa, by using some of the same plants near the outside door as are in containers inside. Candidates include fatsia, camellia, evergreen privet, podocarpus, aucuba, strawberry tree, rosemary, ferns, tolmiea, ophiopogon, yucca and nandina.



To add a little color in the house in early spring, use primroses. Purchase your primroses for the garden a pot at a time. Bring the plants indoors and conceal the plastic pot in a hollow burl, basket, or attractive container. It is much simpler if the pots are green or black! The primroses will remain in good condition from 5 days to 2 weeks. Later, plant them in the garden and bring a new pot indoors. The same burl or container can be used for other annuals and perennials purchased in pots later in the season. Often cheaper than cut flowers, this gives rewards another year and often longer flower life.



Young plants of kinnickinnick are often slow to "thicken up" as ground-cover. To promote faster covering, prune tops by about 1/3. This speeds root growth and encourages branching.



If you haven't read The American Woman's Home by the sisters Catharine E. Beecher and Harriet Beecher Stowe, published 1869, you have a treat in store for you. The purpose of the book and comments on various aspects of horticulture that follow are direct quotations.

"It is the aim of this volume to elevate both the honor and the remuneration of all employments that sustain the many difficult and varied duties of the family state, and thus to render each department of woman's profession as much desired and respected as are the most honored professions of men."

House plants - "When insects infest plants, set them in a closet or under a barrel, and burn tobacco under them. The smoke kills any insect enveloped in it."

Seeds - "Never plant when the soil is very wet. In very dry times, water the seeds at night. Never use very cold water. When the seeds are small, many should be planted together, that they may assist each other in breaking the soil."

The Cultivation of Fruit - "By a little attention to this matter, a lady with the help of her children can obtain a rich abundance of all kinds of fruit. The writer has resided in families where little boys of eight, ten and twelve years old amused themselves, under the direction of their mother, in planting walnuts, chestnuts and hazelnuts, for future time; as well as planting and inoculating young fruit trees of all descriptions. A Mother who will take pains to inspire a love for such pursuits in her children, and who will aid and superintend them, will save them from many temptations, and at a trifling expense secure to them and herself a rich reward in the choicest fruits."



When transplanting salal or ferns from native areas into the garden, try to select plants which have been in as much sun as possible; they will shock less. Ideal time for transplanting is late fall or early winter, which allows plants to settle in before summer stress begins. As new fronds of sword fern start to expand in spring, remove all old fronds and the plants will develop with a neat appearance. If salal is transplanted from a shady location to a sunny spot, remove 1/3 top growth to reduce the shock. If the new location for the ferns or salal is very sandy or extreme clay, work about half soil and half peat or rotted wood for 6-8" below the rootball, to lessen drought stress.



SEED EXCHANGE - 1980

See Page 38, this issue.





AUTUMN FLOWERING DIAMOND LILIES
FROM THE WORLD SPECIALISTS
NERINE NURSERIES
WELLAND, WORCESTERSHIRE

Two gold medals in three years
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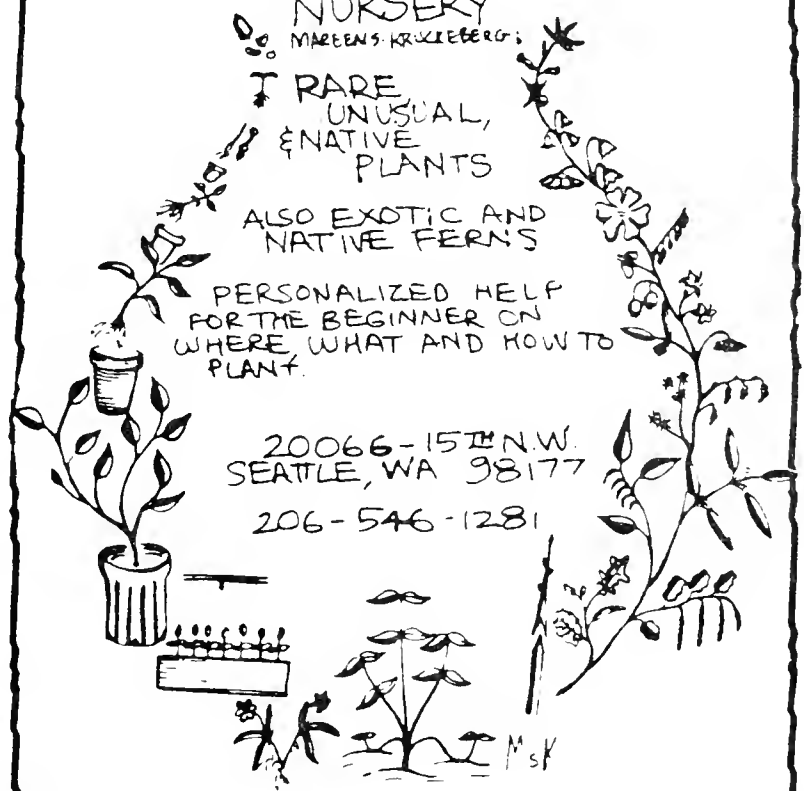
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